PATENT SPECIFICATION

99

DRAWINGS ATTACHED.

Inventors:—EDWARD LANGLEY HOLLINSHEAD and ERIC JOHN CHRISTOPHER MACDONALD.

990,332

Date of filing Complete Specification: Jan. 16, 1964.

Application Date: Jan. 16, 1963. No. 1936/63.

Complete Specification Published: April 28, 1965.

SPECIFICATION NO. 990,332

INVENTORS: EDWARD LANGLEY HOLLINSHEAD and ERIC JOHN CHRISTOPHER MACDONALD

By a direction given under Section 17(1) of the Patents Act 1949 thi proceeded in the name of HODGKINSON BENNIS LIMITED, a British Company, of Highfield Road, Little Hulton, Walkden, County of Lancaster.

THE PATENT OFFICE

D

to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the forming of "small coal" in a state which will have greater commercial value than when in its normal state.

Coal known commercially as "small coal" may be defined as coal which is more or les a powder and may be dry but is more usually damp or wet. Owing to its nature it is only a low grade form of fuel with a limited use for industrial or domestic purposes since it cannot be burnt without a forced draught, is difficult to handle mechanically and is very dirty.

Various methods are used for converting "small coal" into a form in which it can be more easily handled and burnt. but these all require treatment by pressure or heat or by both pressure and heat, e.g. a binder is sometimes employed for forming it into lumps or blocks such as are known as "brickettes", but all these methods are complicated and may be costly, and do not also result in the fuel being in a form most suitable for the desired purpose. Moreover, "brickettes" formed by a binder are liable to disintegrate and deteriorate when stored and to be affected by the weather.

The object of the present invention is to overcome the aforesaid objections to the use of "small coal" as fuel, and this is achieved according to the invention by packaging the fuel in containers which are purpose.

Polythene is an example of a su material on account of its strength, low ing point and cheapness, but it is understood that the invention is not l to the use of polythene as there are other types of synthetic materials whi also suitable for the purpose. Adva ously, the material could be such that it melts it helps to bind the coal pa together.

The container is preferably of a which can be suitably stacked in a mi space, and speaking generally, of a contain a volume from 1 to 4 cubic of fuel.

Examples of suitable shapes are rec lar or ovoid, but containers which are gonal or octagonal in cross section a suitable.

The containers may be made up in aech containing a number of individu which could be separated if desired burning. Such arrangement would two, three or more blocks being piled of one another so that they could be on an open fire and to assist combust material joining adjacent cells may b forated to allow air to pass between dividual cells. Such perforations wou asist the separation of individual cell the block.

If the containers or cells have a fl or faces, one or more humps or pro

PATENT SPECIFICATION 990,332

DRAWINGS ATTACHED.

Inventors:—EDWARD LANGLEY HOLLINSHEAD and ERIC JOHN CHRISTOPHER MACDONALD.

990,332

Date of filing Complete Specification: Jan. 16, 1964.

Application Date: Jan. 16, 1963. No. 1936/63.

Complete Specification Published: April 28, 1965.

Index at Acceptance:—C5 G(6A, 6C, 6N).

Int. Cl.:—C 10 d.

COMPLETE SPECIFICATION.

Improvements relating to the Packaging of Fuel.

We, JAMES HODGKINSON (SALFORD) LIMITED, a British Company of Ford Lane Works, Pendleton, Salford, County of Lancaster, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the forming of "small coal" in a state which will have greater commercial value than when in its normal state.

Coal known commercially as "small coal" may be defined as coal which is more or les a powder and may be dry but is more usually damp or wet. Owing to its nature it is only a low grade form of fuel with a limited use for industrial or domestic purposes since it cannot be burnt without a forced draught, is difficult to handle mechanically and is very dirty.

Various methods are used for converting "small coal" into a form in which it can be more easily handled and burnt, but these all require treatment by pressure or heat or by both pressure and heat, e.g. a binder is sometimes employed for forming it into lumps or blocks such as are known as "brickettes", but all these methods are complicated and may be costly, and do not also result in the fuel being in a form most suitable for the desired purpose. Moreover, "brickettes" formed by a binder are liable to disintegrate and deteriorate when stored and to be affected by the weather.

The object of the present invention is to overcome the aforesaid objections to the use of "small coal" as fuel, and this is achieved according to the invention by packaging the fuel in containers which are of small size and are of low melting thermoplastic material.

The term "small size" as applied to the container is relative to the particular use of the fuel and means a size which can be readily stacked, handled and burnt for that purpose.

Polythene is an example of a suitable material on account of its strength, low melting point and cheapness, but it is to be understood that the invention is not limited to the use of polythene as there are many other types of synthetic materials which are also suitable for the purpose. Advantageously, the material could be such that when it melts it helps to bind the coal particles together.

The container is preferably of a shape which can be suitably stacked in a minimum space, and speaking generally, of a size to contain a volume from 1 to 4 cubic inches of fuel.

Examples of suitable shapes are rectangular or ovoid, but containers which are hexagonal or octagonal in cross section are also suitable.

The containers may be made up in blocks aech containing a number of individual cells which could be separated if desired before burning. Such arrangement would enable two, three or more blocks being piled on top of one another so that they could be burned on an open fire and to assist combustion the material joining adjacent cells may be perforated to allow air to pass between the individual cells. Such perforations would also asist the separation of individual cells from the block.

If the containers or cells have a flat face or faces, one or more humps or projections

may be formed thereon so that if two flat faces are in contact air can pass between the faces.

In order that the invention may be fully understood reference will now be made to the accompanying drawings which show, by way of illustration, several embodiments thereof. In these drawings:

Fig. 1 is a perspective view of a container containing "small coal" before being sealed;

Fig. 2 is a perspective view of the same container after being sealed;

Fig. 3 is a perspective view of a rectangular container having a flat top and bottom;

Fig. 4 is a section on line 4—4 of Fig. 3;

Fig. 5 is a section similar to Fig. 4 but showing humps or projections on the flat top of the container;

Fig. 6 is a perspective view of an octagonally-shaped container having a flat top and bottom;

Fig. 7 is a perspective view, with part of the cover broken away, of a container formed as a block comprising a number of individual cells each octagonal in shape;

Fig. 8 is an elevation of two of the blocks shown in Fig. 7 placed one on top of the other, and

Fig. 9 is a similar view to Fig. 8 but in which the individual cells are rectangular.

The container shown in Figs. 1 and 2 is a bag-like receptacle A which can be partially filled, say to the level indicated by the line a^1, with the fuel and the upper part a folded over and secured by an adhesive tape a^2 as shown in Fig. 2. A package of this construction is particularly useful for small quantities of fuel, and where it is not desired to arrange the packages for storage in orderly piles one above the other.

The container shown in Figs. 3 and 4 and in Fig. 5 is a four-sided receptacle B with a flat top b and a flat bottom b^1. In order that, if one receptacle is placed on top of another, an air space will be formed between them, the flat top b is formed with one or more humps or projections b^2 as shown in Fig. 5. The receptacle B may be of flexible or rigid material and may be filled with "small coal" by removing the top b, the receptacle preferably being completely filled with the fuel.

Any desired shape of receptacle may be used, and in Fig. 6 an octagonal receptacle C is shown with a flat top c and a flat bottom c^1, the top being provided with a central hump or projection c^2.

Fig. 7 shows a block formed of a plurality of individual octagonal shaped cells D, all joined together by a single sheet of material forming the cover d of all the cells. The cover between the cells is formed with apertures d^1 for the passage of air and/or with rows d^3 of perforations for separating the cell D either into smaller blocks, each of which may comprise one or more cells. The cover d is formed with a number of humps or projections d^2, preferably one over each cell so that when one block is placed on top of another block as shown in Fig. 8, air spaces are formed between them.

Although the cells D of the block are shown in Figs. 7 and 8 as being octagonal they may be of any other convenient shape, and in Fig. 9 a block of cells E is shown in which the cells are of rectangular shape, and the humps or projections e^2 on the cover e are situated near the corners of the cells. The cover e is formed with air apertures e^1 and perforations e^3 similar to those in Fig. 7.

WHAT WE CLAIM IS:—

1. A fuel package of relatively small size as defined comprising a filling of "small" coal" enveloped in a container of a low melting thermo-plastic material.

2. A fuel package as in Claim 1 wherein the enveloping thermo-plastic is polythene.

3. A fuel package as in either Claim 1 or Claim 2 wherein the container or receptacle is of a bag-like form, the upper part of which is folded over and secured to seal the fuel within.

4. A fuel package as in either Claim 1 or Claim 2 wherein the container is formed with a flat top and bottom to assist in the piling of packages one on top of the other.

5. A fuel package as in Claim 4 wherein the top of the container is provided with humps or projections whereby when two or more packages are piled one on top of the other air spaces will be formed between them.

6. A fuel package as in either Claim 1 or Claim 2 comprising a plurality of individual cells joined together by a flat cover to form a single block.

7. A fuel package as in Claim 6 in which the cover is provided with apertures between the cells for the passage of air.

8. A fuel package as in either of Claims 6 or 7 in which the cover is perforated between the indivudal cells to permit of the separation of one or more of the cells from the block.

9. A fuel package as in any one of Claims 6 to 8 wherein the cover is formed with humps or projections whereby when one package is placed on top of another an air space is formed between them.

10. A fuel package of relatively small size as defined substantially as described with reference to and as illustrated in Figs. 1 and 2, Figs. 3 and 4, Fig. 5, Fig. 6, Figs. 7 and 8 or Fig. 9 of the accompanying drawings.

J. OWDEN O'BRIEN & SON,
Chartered Patent Agents,
Manchester, 2.

Abingdon: Printed for Her Majesty's Stationery Office, by Burgess & Son (Abingdon), Ltd.—1965.
Published at The Patent Office, 25 Southampton Buildings, London, W.C.2,
from which copies may be obtained.

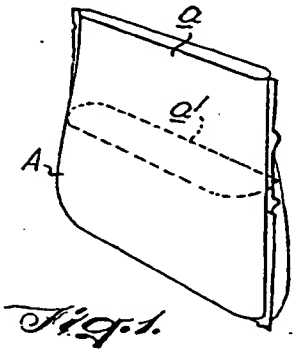


Fig. 1.

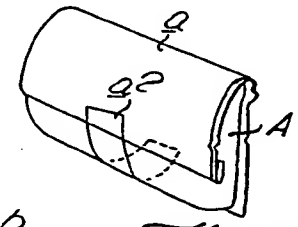


Fig. 2.

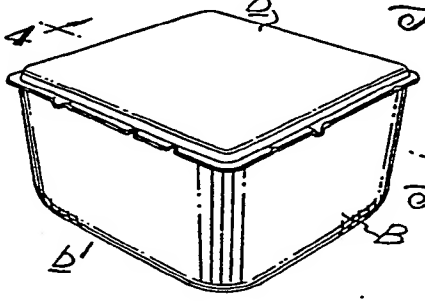


Fig. 3.

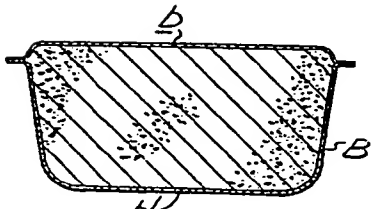


Fig. 4.

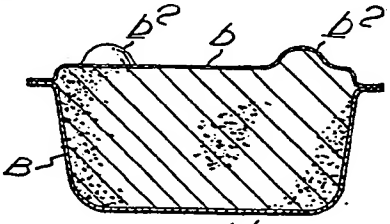


Fig. 5.

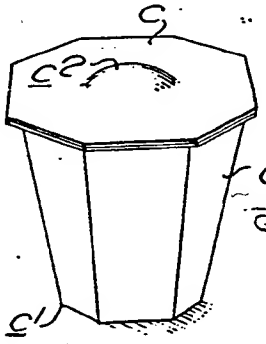


Fig. 6.

990332 COMPLETE SPECIFICATION

2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*

Sheets 1 & 2

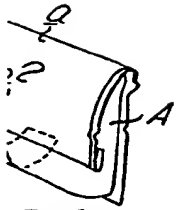


Fig. 2.

Fig. 3.

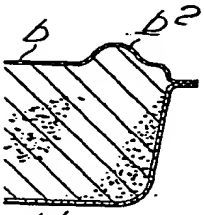


Fig. 5.

7. 6.

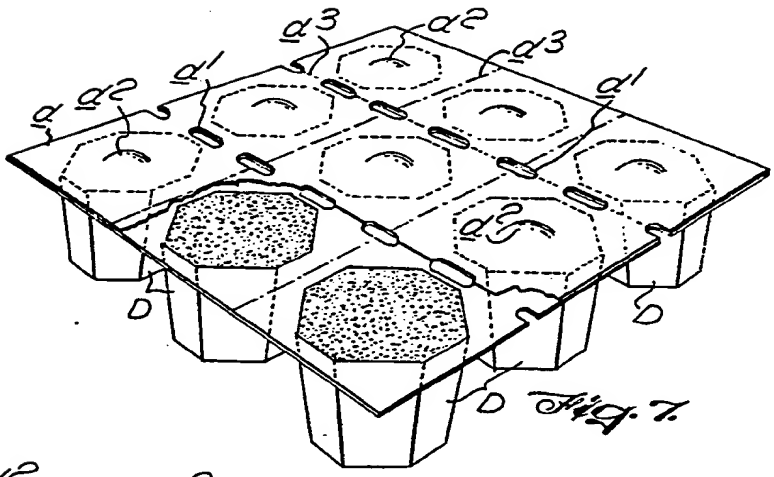


Fig. 7.

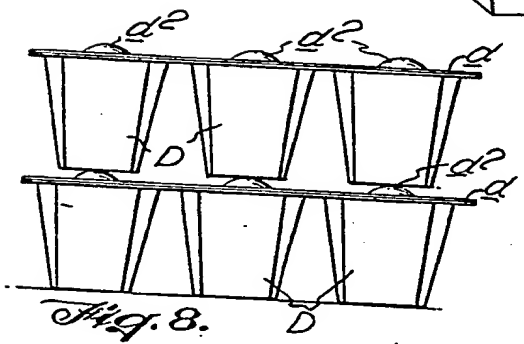


Fig. 8.

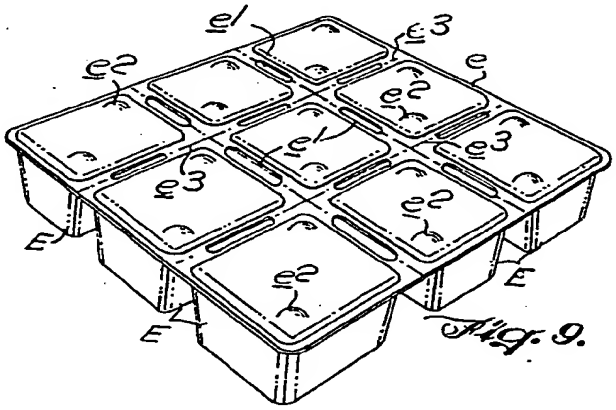
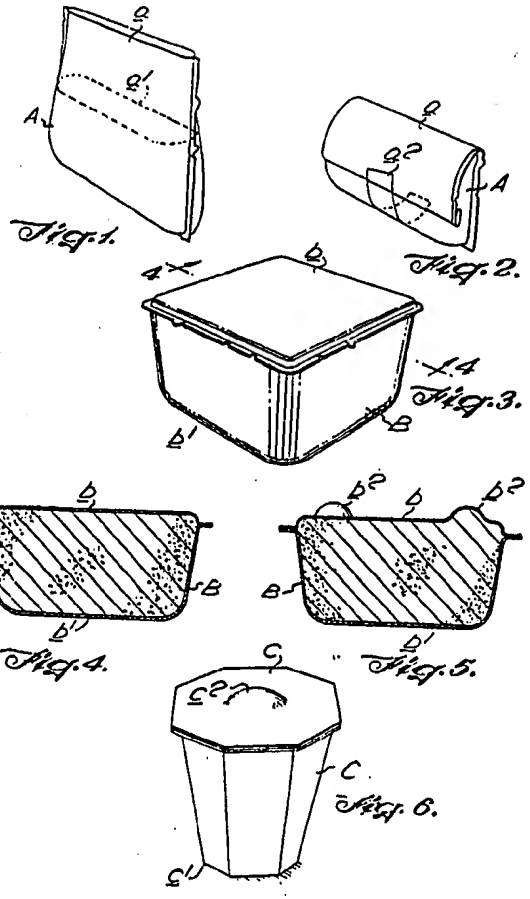


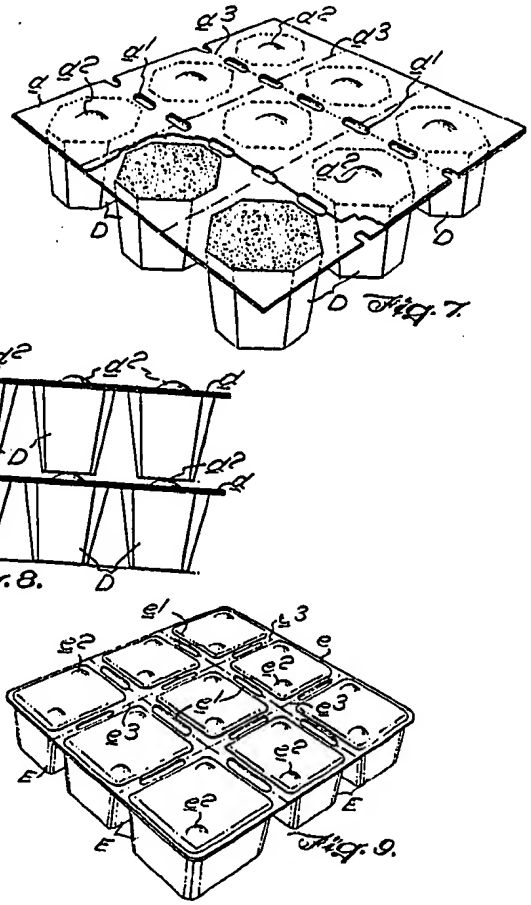
Fig. 9.

990332 COMPLETE SPECIFICAT

2 SHEETS This drawing is a reproduct the Original on a reduced

Sheets 1 & 2





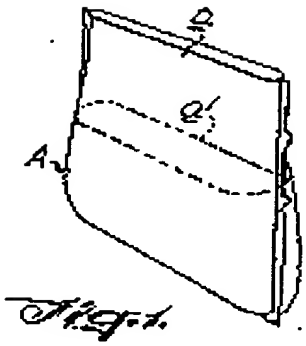


Fig. 1.

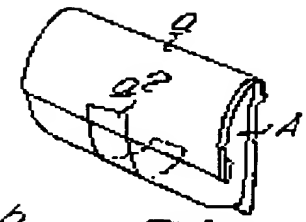


Fig. 2.

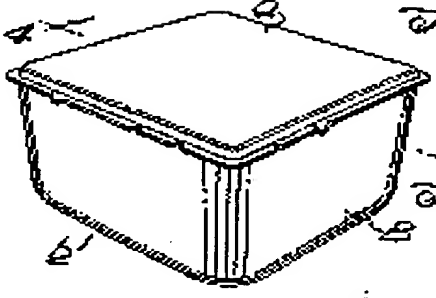


Fig. 3.

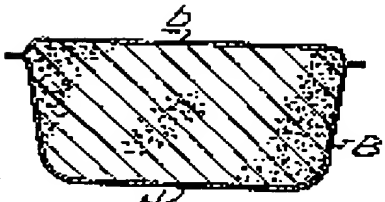


Fig. 4.

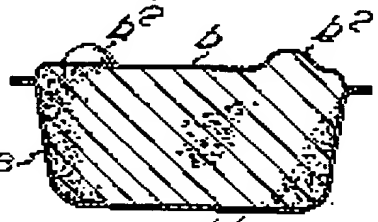


Fig. 5.

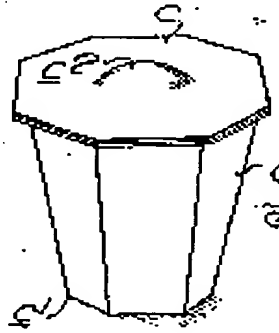


Fig. 6.

990332 COMPLETE SPECIFICATION

2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 1 & 2

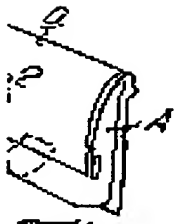


Fig. 2.

Fig. 3.

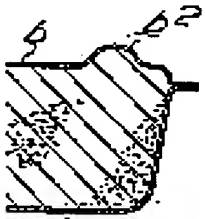


Fig. 5.

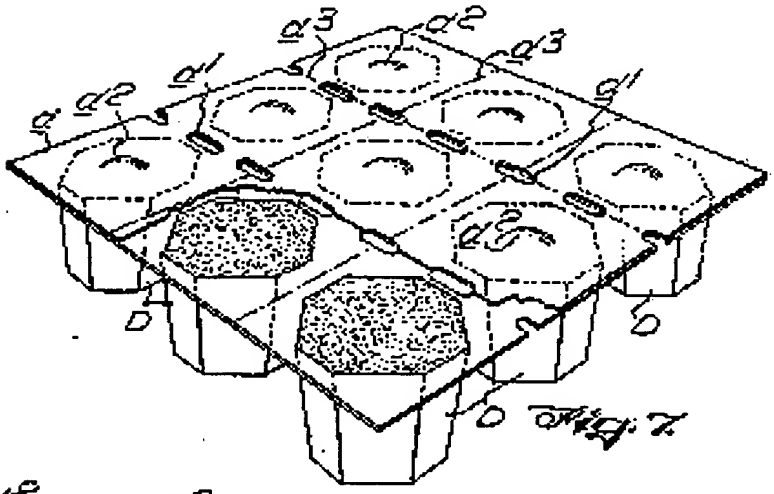


Fig. 7.

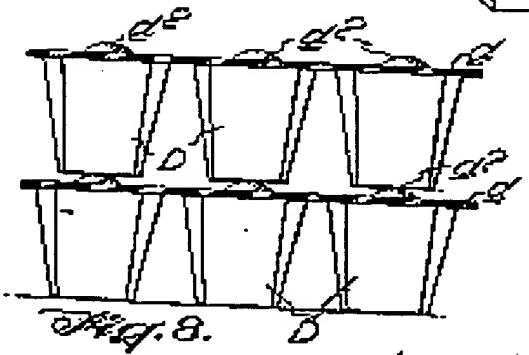


Fig. 8.

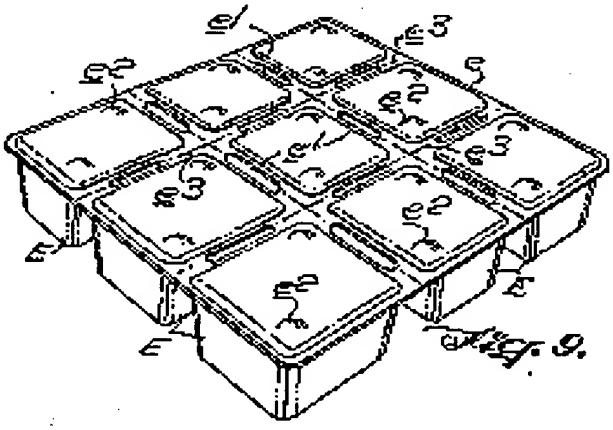


Fig. 9.

Fig. 6.

990332 COMPLETE SPECIFICATION

2 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheets 1 & 2